REMARKS

Prior to this Reply, Claims 1-42 were pending. Through this Reply, Claims 1, 21 and 38 have been amended. In addition, Claims 2-4, 6, 8-13, 17 and 28-32 have been amended for readability (which includes correcting an obvious error in Claim 31) and are not being amended to distinguish any of the cited references. Furthermore, Claim 20 has been cancelled without prejudice to, or disclaimer of, the subject matter contained therein. No claims have been added. Accordingly, Claims 1-19 and 21-42 are now at issue in the present case.

I. Claims 1 and 38

The Examiner rejected Claims 1 and 38 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,100,683 to Lim et al. (hereinafter "Lim").

Lim Fails To Disclose Deriving A Value From Samples Having An Amplitude Greater Than 50 Percent Of An Isolated Pulse

The Examiner asserts that Lim teaches deriving a value from m of the n samples. Without necessarily agreeing with this assertion by the Examiner, Applicant notes that Claim 1 has been amended to specify that each of the m samples has an amplitude greater than 50 percent of the amplitude of an isolated pulse, wherein the m samples are significant samples. Support can be found at least at page 16, lines 14-18, page 9, lines 12-14, and Fig. 6.

The Examiner refers to Col. 4, lines 32-41 of Lim. Lim, in this section, discloses using a "general equation for calculating a standard deviation." There is no disclosure of basing a derived value on samples having an amplitude greater than a specified amplitude (e.g., greater than 50 percent of the amplitude of an isolated pulse). Indeed, Lim appears to disclose indiscriminately using all samples of a frequency register value. Furthermore, there is no

disclosure of determining whether each sample has at least a given amplitude. Column 4, lines 27-31. See also Fig. 3.

Accordingly, because Lim fails to disclose driving value from m samples wherein each of the m samples has an amplitude greater than 50 percent of the amplitude of an isolated pulse and wherein said m samples are significant samples, Claim 1 (as amended) is patentably distinguishable from Lim.

Claim 38 has been amended in a manner similar to the aforementioned amendments made to Claim 1 and is believed to be patentably distinguishable from Lim for reasons similar to those discussed above in connection with Claim 1.

II. Claims 1 and 21

Lim Fails To Disclose Using The Comparison To A Threshold Value To Determine Whether There Is A Flaw In The Disk

As noted in the specification, flaw testing identifies areas of the disk that may not reliably encode user data. Page 4, lines 11-12. The specification notes that defects on the disk can include areas of a thin film, scratches, pitting and the like. Page 4, lines 1-8. As further noted in the specification, flaw testing is generally performed as a qualification test, before the disk drive is delivered to an end-user. Page 4, lines 9-11.

In contrast, Lim does not disclose detecting flaws in a disk but, rather, is directed to head/disk interference. Lim discloses that head/disk interference is caused by the air-bearing vibration that occurs when heads fly over the storage media. Col. 2, lines 54-56. There is no disclosure or indication that head/disk interference is indicative of, or otherwise relates to, a thin film, scratch, or pit in the disk surface, or is otherwise related to a disk flaw. Accordingly, Lim,

being directed to detecting head/disk interference, fails to disclose using comparison to a threshold value to determine whether there is a flaw in at least a portion of a track of a disk.

Because Lim fails to disclose using said step of comparing to determine whether there is a flaw in at least a portion of a track of the disk, Claim 1 (as amended) is patentably distinguishable over Lim.

Claim 21 has been amended in a manner similar to the aforementioned amendment of Claim 1. Accordingly, Claim 21 is believed to be patentably distinguishable from Lim, at least, because Lim fails to disclose using the step of comparing to determine whether there is a flaw in said plurality of bit cells on said disk.

III. Dependent Claims

Claims 2-19, 22-37 and 39-42 are believed to be patentable, at least, because they depend from one of independent Claims 1, 21 or 38, and for other reasons as well.

With respect to Claim 5, the Examiner asserts that U.S. Patent No. 6,646,822 to Tuttle (hereinafter "Tuttle") teaches using equations that are able to extract the peak values according to the signal being past through the channel, and asserts that Tuttle teaches the samples to be taken at its expected peak values. Applicant respectfully disagrees. Tuttle does not relate to determining the times at which the signal is sampled, much less to selecting times corresponding to expected peak values. Instead, Tuttle teaches circuitry for detecting peaks. Column 19, lines 42-44. Rather than sampling at expected peak times, Tuttle teaches that the servo signal "is sampled by the ADC 24 of the read channel E161 (shown in Fig. 14) at a rate faster (typically more than four times faster) than the rate of pulses in the servo data fields. Column 18, lines 55-58. Thus, rather than teaching the process of sampling at expected peaks, Tuttle, if anything,

teaches away from the claimed procedure. Specifically, by teaching sampling at a rate faster than the pulse rate, Tuttle teaches that samples are taken at times where peaks are not expected.

Regarding Claims 6, 25, 8 and 32, the Examiner acknowledges that Lim fails to teach all claimed elements but asserts that U.S. Patent No. 6,252,731 to Sloan (hereinafter "Sloan") "teaches that [it] takes encoded digital data and generates a byte which represents the sum [or integral] of the data that read from the disk" (citing Sloan at Col. 6, lines 9-24). Applicant respectfully disagrees. Sloan does not teach taking the sum or integral of the data that was read from the disk. Rather, Sloan teaches a status byte which represents the integral, or sum, of the square of the sample bit error values recovered during the read operation. If the Examiner persists in any belief that Sloan teaches taking the sum (or integral) of data that was read from the disk, the Examiner is respectfully requested to point out the column and line numbers of Sloan which provide such disclosure.

Regarding Claim 18, the Examiner asserts that "it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Lim et al.'s invention in order to make m smaller to n in order to verify the threshold according to a specific amount of samples (citing the Abstract of U.S. Patent No. 6,100,683). Applicant believes that Lim '683 fails to disclose a method in which n is greater is m. Applicant believes that it is improper for the Examiner to cite Lim '683 as support for the asserted obviousness of modifying Lim '683 to supply what Lim '683 did not disclose in the first place. If the Examiner persists in a belief that it would have been obvious to modify Lim '683 to make m smaller than n, the Examiner is respectfully requested to either cite a reference, or provide an Examiner's Affidavit, to support this rejection. In the present action, Applicant believes that the Examiner has failed to make a *prima facie* case supporting rejection of Claim 18.

With regard to Claim 35, the Examiner asserts it would have been obvious "to know that in order to drive a value, multiple samples need to be used" and asserts that it would have been obvious "to modify Lim et al.'s invention in order to have a plurality of samples in order to calculate a value to be compared to a threshold." Without necessarily agreeing with these assertions by the Examiner, it is noted that even if assumed to be true, these assertions do not reach the subject matter of Claim 35 which indicates that the n samples comprise those samples derived from magnetic transitions between said first and second and between said third and fourth bit cells.

Regarding Claims 14, 33 and 40, the Examiner notes the function "$1 - D^2 + D^4 - D^6$" and asserts that U.S. Patent No. 5,973,548 to Zook "uses a PR4" which is $(1 + D)(1 - D) = 1 - D^2$, the transfer function above in its simplest form. Applicant respectfully disagrees. The Examiner apparently is treating the function "$1 - D^2 + D^4 - D^6 \ldots$" as if it were an algebraic expression (the apparent source of the Examiner's unsupported assertion that $(1 + D) (1 - D) = 1 - D^2$). However, Claims 14 and 40 expressly note that the function is provided "in delay operation notation." Those of skill in the art know that delay operation notation is not the same as algebraic notation. A delay operator D^d delays a time sequence d time steps. If the Examiner persists in a belief that Zook's disclosure, at Col. 13, Table 1, amounts to a disclosure of filtering by the function $1 - D^2 + D^4 - D^6 \ldots$ in delay operation notation, the Examiner is respectfully requested to cite references supporting this assertion with an understanding of the meaning of delay operation notation, as that notation is understood by those of skill in the art.

IV. Summary

In summary, Claims 1 and 38 are patentable at least because Lim fails to disclose "each of said m samples having an amplitude greater than 50 percent of the amplitude of an isolate pulse" and/or fails to disclose "using said step of comparing to determine whether there is a flaw in said at a least a portion of said track on said disk." Claim 21 is patentable at least because Lim fails to disclose "using said step of comparing to determine whether there is a flaw in said plurality of bit cells on said disk." The dependent claims are patentable at least because they depend from the independent claims and for other reasons including, at least, those reasons described above.

It is believed Applicant has provided reasoning sufficient to establish allowability of the pending claims, although there may be additional reasons supporting allowability which Applicant may provide, if necessary. Although it is believed that the reasoning stated herein suffices for overcoming the current rejections, Applicant specifically does not admit to or accede in the various assertions made by the Examiner in the Office Action (whether or not expressly addressed herein). Applicant does not necessarily admit that the cited references represent pertinent art and does not necessarily admit that the combination of references proposed by the Examiner represent proper combinations. For example, it is believed that the Lim '683 reference does not represent pertinent art because it is directed to detecting and analyzing head disk interference and does not disclose or relate to detection of disk flaws such as thin films, scratches, pits and the like.

V. Additional Claim Fees

In determining whether additional claim fees are due, reference is made to the Fee Calculation Table (below).

Fee Calculation Table

	Claims Remaining After Amendment		Highest Number Previously Paid For	Present Extra	Rate	Additional Fee
Total (37 CFR 1.16(c))	41	Minus	42	= 0	x $18 =	$ 0.00
Independent (37 CFR 1.16(b))	3	Minus	3	= 0	x $86 =	$ 0.00

As set forth in the Fee Calculation Table (above), Applicant previously paid claim fees for forty-two (42) total claims and for three (3) independent claims. Accordingly, Applicant believes that no additional claim fees are due. Nevertheless, the Commissioner is hereby authorized to charge Deposit Account No. 50-2198 for any fee deficiencies associated with filing this paper.

VI. Conclusion

Applicant believes that the application appears to be in form for allowance. Accordingly, reconsideration and allowance thereof is respectfully requested.

The Examiner is invited to contact the undersigned at the below-listed telephone number regarding any matters relating to the present application.

Respectfully submitted,

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